

Pending Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of establishing communications comprising:  
establishing a virtual connection between a source computer system assigned a source virtual host name and located behind a first connectivity barrier and a destination computer system assigned a destination virtual host name and located behind a second connectivity barrier;  
establishing a first session between the source computer system and a forwarder/relay service, wherein establishing the first session includes ~~communicating transport layer protocol formatted data~~ processing data to represent the data using a proxy network protocol so that the processed data is configured to tunnel through the first connectivity barrier; and  
establishing a second session between the destination computer system and the forwarder/relay service, the forwarder/relay service maintaining the second session if the first session is temporarily lost and re-establishing the virtual connection when then first session is re-established.
2. (Original) The method of claim 1 wherein at least one of the connectivity barriers comprises a firewall.
3. (Original) The method of claim 1 wherein at least one of the connectivity barriers comprises a consumer gateway.
- 4-6. (Cancelled).

7. (Previously presented) The method of claim 1 wherein the virtual host names comprise part of a hierarchical naming system.

8. (Previously presented) The method of claim 1 including providing a directory search application to allow a user to select the virtual host names.

9. (Previously presented) The method of claim 1 wherein the source computer system can roam between networks.

10. (Previously presented) The method of claim 1 including dynamically assigning at least one server associated with the forwarder/relay service to handle the sessions.

11. (Currently amended) A method of establishing communications between source and destination computer systems comprising:

establishing a session between the source computer system located behind a first connectivity barrier and a forwarder/relay service, wherein establishing the session includes ~~communicating transport layer protocol formatted data~~ processing data to represent the data using a proxy network protocol so that the processed data is configured to tunnel through the first connectivity barrier;

establishing a transport level communications connection between the forwarder/relay service and the destination computer system, the destination computer system located behind a second connectivity barrier; and

maintaining the session between the forwarder/relay service and the destination computer system if the session between the source computer system and the service is lost.

12. (Previously presented) The method of claim 11 wherein the first and second barriers comprise firewalls.

13. (Previously presented) The method of claim 11 wherein the first and second barriers comprise consumer gateways.

14. (Previously presented) The method of claim 11 including assigning a server associated with the forwarder/relay service to handle the session.

15. (Previously presented) The method of claim 11 in which the session is established based on a virtual host name associated with the source computer system.

16. (Original) The method of claim 15 wherein the virtual host name comprises part of hierarchical naming system.

17. (Original) The method of claim 15 including providing a directory search application to allow a user to select the virtual host name.

18. (Previously presented) The method of claim 15 wherein the source computer system can roam between networks.

19. (Original) The method of claim 14 wherein the server is dynamically assigned.

20-25. (Cancelled)

26. (Currently amended) An article comprising a computer-readable medium including computer-executable instructions for causing a computer system, in response to a request from a first computer system located behind a first connectivity barrier to establish connectivity to a second computer system to:

assign a server to handle a first session between the first computer system and a forwarder/relay service, wherein the first ~~session communicates transport layer protocol~~

~~formatted data~~ computer system processes data to represent the data using a proxy network protocol so that the processed data is configured to tunnel through the first connectivity barrier;  
establish a session initiated by the second computer system if the second computer system is located behind a second connectivity barrier; and  
maintain the session between the forwarder/relay service and the destination computer system if the session between the source computer system and the forwarder/relay service is lost.

27. (Previously presented) The article of claim 26 including instructions for causing the computer system to establish a transport level communications connection to the second computer system if the second computer system is not located behind a connectivity barrier.

28. (Previously presented) The article of claim 26 including instructions for causing the computer system to instruct the first computer system to establish a direct session with the second computer system if the second computer system is not located behind a connectivity barrier.

29. (Previously presented) The article of claim 26 including instructions for causing the computer system to establish the forwarder/relay session between the first computer system and the service based on a virtual host name associated with the first computer system.

30. (Original) The article of claim 29 wherein the virtual host name comprises part of hierarchical naming system.

31. (Cancelled).

32. (Previously presented) The method of claim 1, wherein the proxy network protocol includes at least one of: Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and SOCKS4/5.

33. (Currently amended) The method of claim 1, wherein establishing the second session comprises:

determining a communication mode for communicating between the destination computer system and the ~~forward/relay~~ forwarder/relay service; and

communicating data between the destination computer system and the ~~forward/relay~~ forwarder/relay service according to the determined communication mode.

34. (Currently amended) The method of claim 33, wherein the communication mode includes at least one of:

a forward mode for communicating data without using any proxy network protocol transport layer protocol formatted data; and

a relay mode for communicating ~~transport layer formatted~~ data using another proxy network protocol

35. (Cancelled)

36. (Previously presented) The method of claim 11, wherein the proxy network protocol includes at least one of: Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and SOCKS4/5.

37. (Cancelled)

38. (Previously presented) The article of claim 26, wherein the proxy network protocol includes at least one of: Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and SOCKS4/5.